



License: [CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/)

# Android Automotive SIG - VHAL

Stefan Wysocki, TietoEVRY

February 2021



# Track 1



## Usecase:

- Application wants to read the current fuel level and the tank capacity

## Requirements:

- Read access for signals needs to be protected by a permission:  
org.genivi.vss.permission.FUEL\_SYSTEM\_READ
- Permission needs to be granted by an authority which is secure
- Data needs to be defined and structured according to VSS
- Data needs to be accessible by the framework as well



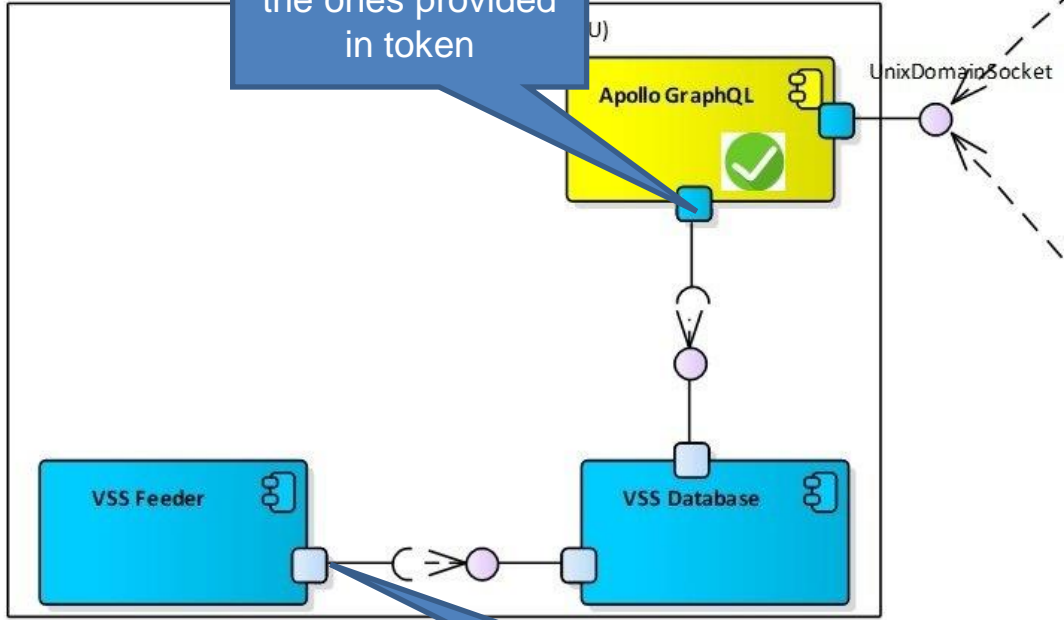
cmp Google VHAL + External Data Server

**Defined by**

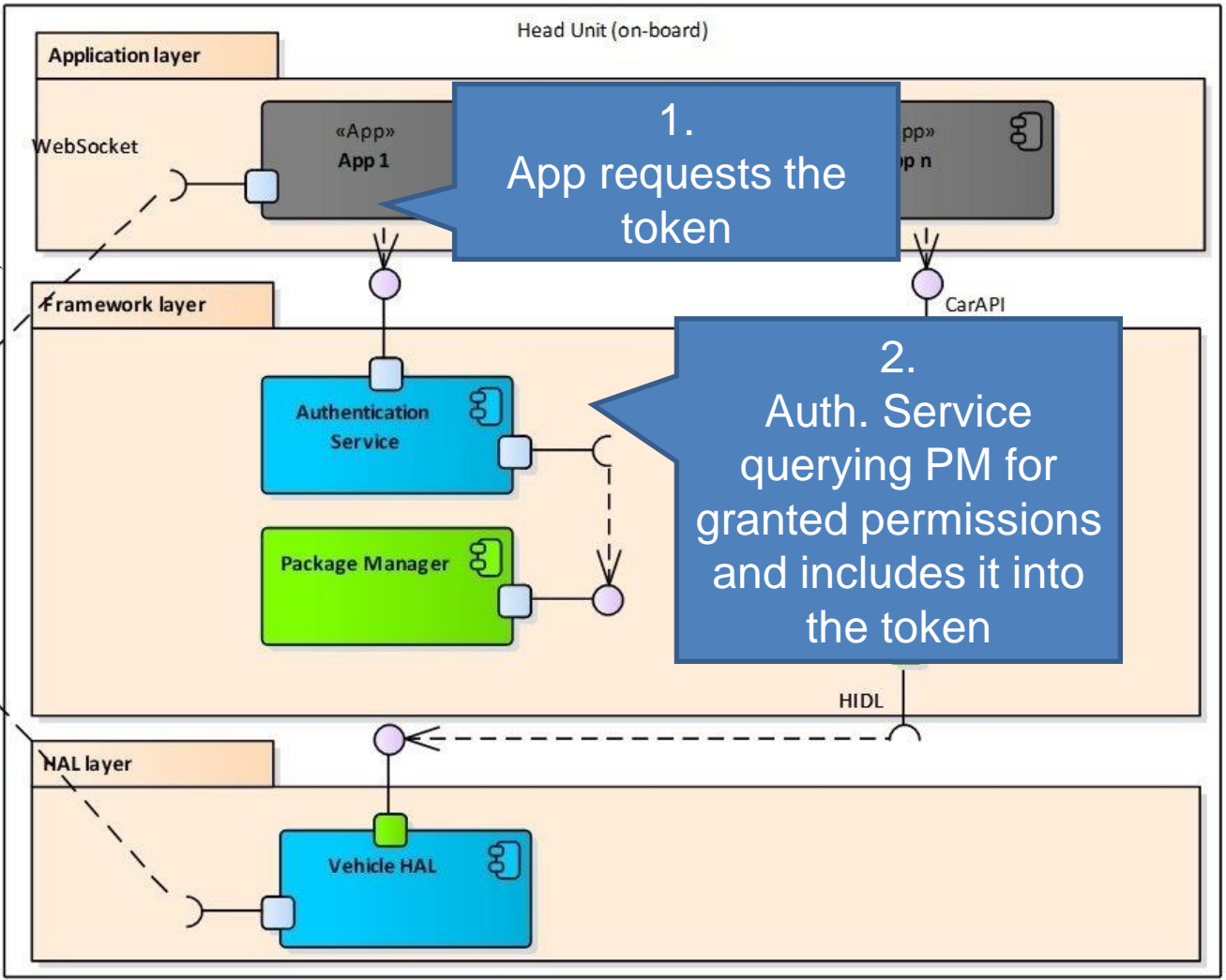
- Google
- Genivi
- OEM / Tier1
- OSS

4. Server checks which permissions are needed for given leaves and compares it with the ones provided in token

3. App sends a query for VSS leaves



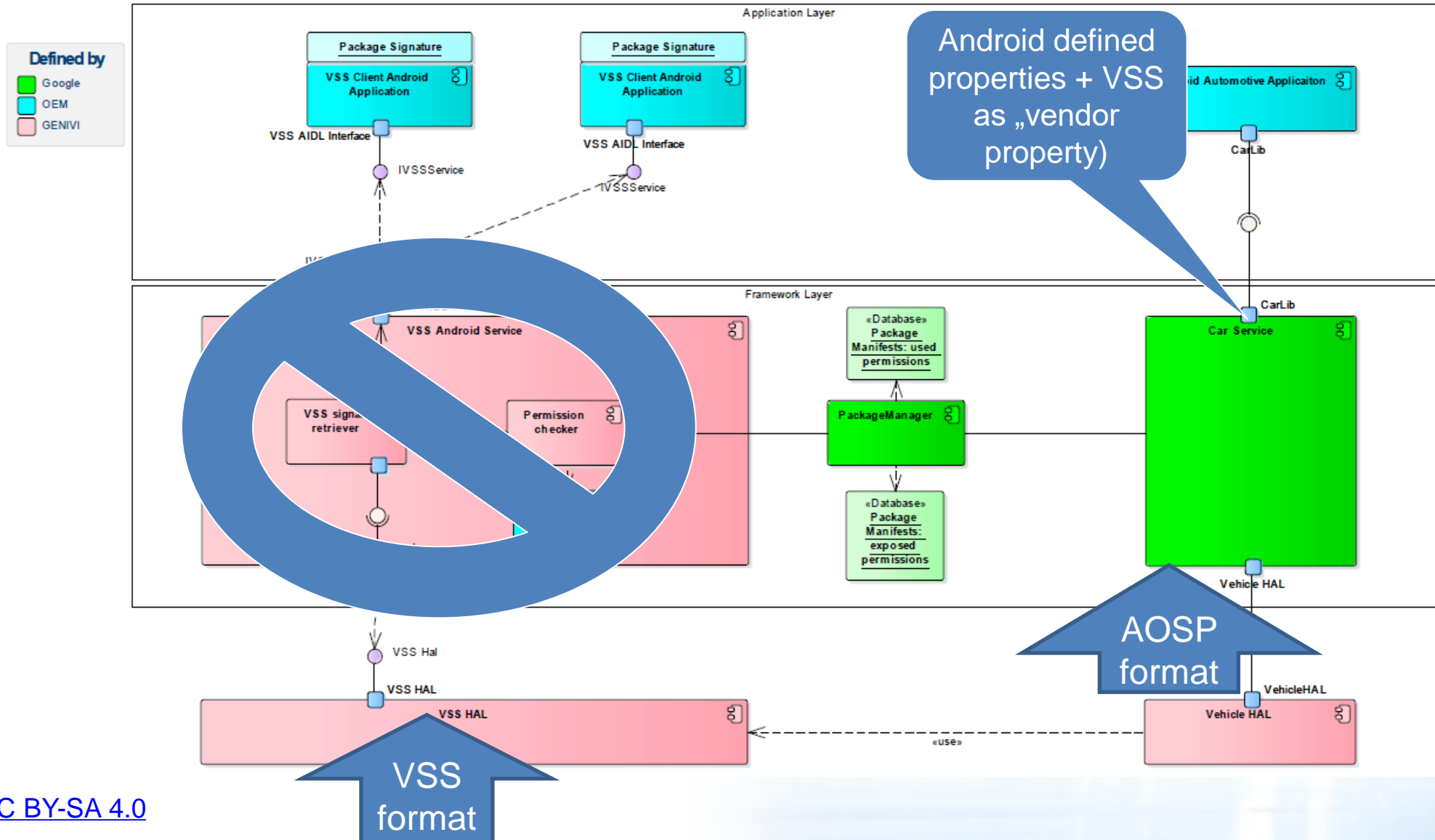
VSS Feeder constantly supplies the DB with VSS structured properties from OpenDS Simulator



1. App requests the token

2. Auth. Service querying PM for granted permissions and includes it into the token

# Track 2



# Track 2 - vehicle HAL implementation

- Flat the VSS hierarchy
- Map some of the „fields” to the one supported by hidl
- Loose „branch” type for grouping the properties
- Translation module for properties that are defined differently by both standards (translation of units or datatypes)

```
#  
# Tire  
#  
- Tire:  
  type: branch  
  description: Tire signals for wheel  
  
- Tire.Pressure:  
  datatype: uint8  
  type: sensor  
  unit: kpa  
  description: Tire pressure in kilo-Pascal
```



```
/**  
 * Tire pressure  
 *  
 * min/max value indicates tire pressure sensor range. Each tire will have a separate min/max  
 * value denoted by its areaConfig.areald.  
 *  
 * @change_mode VehiclePropertyChangeMode:CONTINUOUS  
 * @access VehiclePropertyAccess:READ  
 * @unit VehicleUnit:KILOPASCAL  
 */  
TIRE_PRESSURE = (  
  0x0309  
  | VehiclePropertyGroup:SYSTEM  
  | VehiclePropertyType:FLOAT  
  | VehicleArea:WHEEL),
```

# Contributing



Weekly telcos:

Tuesdays – 17:00 CET (US friendly time) – Vehicle Data APIs / VHAL

Android Automotive Project Wiki :

<https://at.projects.genivi.org/wiki/x/XgA4Ag>

# Thank you!

**Contact W3C Transport and Automotive groups:**

[ted@w3.org](mailto:ted@w3.org)

<https://www.w3.org/auto/>

**Visit GENIVI:**

<http://www.genivi.org>

<http://projects.genivi.org>

